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->From the Editor's Keyboard "Saying it like it is!"
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Well, we've missed another issue last week, due to an extremely shortage of material. This is the second time that this has occurred in about a month. We've run "short" issues in the past, but not anything to the levels we faced over the past month or so! Hopefully, this situation will not become a "regular" problem!

Anyway, a belated unofficial beginning of summer greeting to you all! Finally, we can look ahead rather than face any reminders of this past dreadful winter! Temps in the 80's here as of late has been a welcome change - although I have to admit that I'd certainly prefer to see temps in the 60's and 70's!

Lots of interesting articles this week, especialy a number of them that pertain to some enjoyable reading on some "retro" topics. It's always nice to find stories that remind me/us of days of old! Keep reading, and I'm sure that you'll agree!

Until next time...

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View Hundreds of Retro Graphics Formats with RECOIL

Viewing images is easy these days. No matter which platform you re on, or what application you re running, just about everyone uses the same standard formats, and these can typically be displayed on your device s native viewer, with no need to install anything else.

In the early days of computing, 30+ years ago, it was different. There was no JPG, no PNG, so companies like Atari and Commodore had their own graphic formats. Even these weren t fixed, with new variations all the time, which makes it very difficult if you d like to view any of them on a modern computer.

RECOIL - Retro Computer Image Library is a free collection of tools which can display hundreds of formats from all the major computers of the day: Amiga, Amstrad CPC, Apple II, Atari 8-bit, Atari Portfolio, Atari ST, Atari Falcon, BBC Micro, Commodore 16, Commodore 64, Macintosh 128K, MSX,

SAM CoupØ, ZX81 and ZX Spectrum.

Installing the package on a PC gets you a simple GUI viewer, RECOILWin. This is extremely basic - no thumbnail browsing, no rotation or anything else - but there s the core functionality you need: back/ next, zoom in and out, and - if you d like to use the image elsewhere - the ability to copy pictures to the clipboard or save them as PNGs.

A bundled thumbnail provider for Windows Explorer means you re able to see previews of supported formats without loading RECOILWin directly.

There are also plugins for many other image viewing and processing tools (Paint.NET, ImageMagick, XnView, Imagine), along with a portable command line image converter, an HTML 5-based viewer, an Android application and more.

The core RECOIL engine is available itself in the "Formats" IrfanView plugin, so if you ve installed that already you probably don t need the stand-alone build. But otherwise this is a great collection of tools for viewing early computer graphics. Recommended.

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->In This Week’s Gaming Section - The Witcher 3: Wild Hunt Casts A Mean Spell !
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EA Reboots ’Need For Speed’
Happy 35th Birthday, Pac-Man!
And much more!

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->A-ONE’s Game Console Industry News - The Latest Gaming News!
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The Witcher 3: Wild Hunt Casts A Mean Spell

The problem with trying to review The Witcher 3: Wild Hunt is that it requires you to stop playing The Witcher 3: Wild Hunt long enough to write a review.
This is not easy.

It s The Lord of the Rings by way of A Game of Thrones, an immense, mature, character-driven fantasy that balances its ridiculously long script with plenty of sword-swinging, spell-flinging action. It requires time, patience, and more than a few reminders to your spouse that when she said she would love you unconditionally, it was letting you play The Witcher 3 every night until the crack of dawn for a month that you had in mind.

What makes The Witcher 3 most remarkable, however, isn t its potential to derail your marriage; it s how the game manages to be both intimate and vast at the same time. A massive, open-world game with a great story? Believe it. The Witcher 3 is one of the best role-playing games in years.

You once again play as the titular witcher, Geralt of Rivia, a gray-haired monster-hunter tasked to track not a beast but his powerful protØgØ, Ciri. She s the closest thing Geralt has to a daughter (despite our hero s raging libido, witchers are infertile), and she s being hunted by a group of deadly, otherworldly knights.

If the names don t ring a bell, you didn t play the two prior Witcher games (or read the half-dozen Polish novels on which they re based), and that s fine. The developers at CD Projekt Red have done an admirable job of keeping the game s complex politics and character relationships contained just enough to give you a flavor of the lore without drowning you in it. You ll doubtlessly be lost from time to time Geralt did what to whom, when? but it s never a deal breaker. The Witcher 3 keeps its core plot focused and understandable at all times.

I can t overstate how important this is. The Witcher 3 s story is meaty and engaging, a gripping detective drama wrapped in a weathered cuirass. The writing is superb, smoothly transitioning between dialogue options despite an impossibly huge narrative tree. Choices abound in The Witcher 3. Decisions you make in even the most innocuous quest can potentially affect the way the broader story unfolds. It s as though you re helping craft the story, not just simply thumbing through its pages.

An example: During one of the many optional Witcher Contract quests, which require you to track and kill a terrible beast, I made a few questionable decisions regarding the fate of an evil presence lurking inside a great tree. Should I kill it? Set it free? A dozen gameplay hours later, tragedy struck a character in the main quest because of my decision. I didn t see it coming. This kind of path branching isn t exclusive to The Witcher 3, but I can t remember another game that handled it as seamlessly.

Unfortunately, like most games of this nature, The Witcher 3 can t quite figure out how to wrap itself up. The third act loses focus, running you around the world in an awkwardly long goodbye.

But even managing to charge through the main plot is a feat in itself because of the sheer number of things to do. You can follow the story quests, pick up literally hundreds of side quests, or head toward the nearest Point of Interest question mark and get into all kinds of trouble. Or just wander: Head into the woods and pick some herbs for potions, or dive into a lake and see if anything useful is buried at the bottom. It s even got its own collectible card game; you can waste hours simply trying to win new cards from innkeepers. There are so many things to do in The Witcher 3 that you ll occasionally zone out while staring at its busy map.

At times, the game world s size can prove problematic. A moderately helpful fast-travel system alleviates the strain of incessantly criss-crossing the world, but invariably you ll find yourself stuck in the middle of nowhere and having to hoof it back to civilization only to find out once you get there that you have to return to wherever you were to cue another quest. Note to future open-world game designers: How about a better quest planner? I go to Target, I swing by Starbucks, I

stop by the dry cleaner, then I go home. I don t race back and forth like an idiot. Can t I sketch out my video game quest schedule too?

The upside to roaming the treacherous world of Temeria is that it s gorgeous. Gripped in an unforgiving war, the land is teeming with life and death. Frosty mountain passes, sun-drenched wheat fields, smoking battlefields, glistening water lapping at the shore of a mysterious island the views are breathtaking. It s also impressively detailed. Every tree and rickety shack and random boulder looks as if it s been placed there by hand. The Witcher 3 is a master class in world-building.

The voice work, traditionally a bit hit or miss in games of this size, is just as spot-on. From the haughty English of the Nilfgardian emperor (played by Thrones Charles Dance) to the warm brogue of the Viking-like Skelligers, I couldn t find a voice actor I didn t like.

Geralt s beard even grows over time. You can shave it. It grows back. Follicular simulation! This is a beautiful video game.

And a deadly one. Combat in The Witcher 3 is straightforward but satisfying, featuring attack-and-parry swordplay alongside a handful of upgradable battle spells. Smashing away can be effective on grunts, but when you face a tougher foe, you can resort to the comprehensive bestiary to get tips on what potions, spells, and bombs might work best. The magic in particular gives you a real sense of power; watching wisps of flame arc from your fingertips never gets old.

You ll tangle with all kinds of wildly creative, grotesque enemies, but it s the big, scary ones that stand out. Whether it s grounding an archgriffon with a crossbow bolt, leaping in and out of range with your sword as it lunges at you with its razor-sharp talons, or flanking a cyclops and deftly dodging its earth-shaking fists, The Witcher 3 provides no shortage of heart-stopping melee moments.

At times, however, you ll be fighting with the controls. The loose auto-locking means you re often stuck swinging at the wrong enemy. Cliffside walks are unnecessarily harrowing, thanks to Geralt s fidgety walk. Simply standing in the right place to trigger the Press X to interact signal can take an inordinate number of tries. The game s mechanics aren t quite as polished as its world.

The good news is that you ll calibrate to these nuances within a few hours, which means you ll be pretty comfy for the remaining 195 or so. But The Witchers 3’s size isn t the reason you should play it. Play it for its world, its craftsmanship, its startling ambition, and its tremendous delivery. Play it because games of this quality and scope don t come along often. Just play it.

On the Road Again: EA Reboots ’Need For Speed’

After a year off, Electronic Arts racing franchise Need For Speed is back on the road.

The video game publisher announced a new Need For Speed game will launch this fall for PC, PlayStation 4 and Xbox One. The game is being developed by Ghost Games, which created the last title in the franchise’s library: 2013’s Need For Speed Rivals.

Like Rivals, the revamped Need For Speed will feature an open world structure, allowing players drive to any location and complete missions in any order.

"There’s a very strong element of narrative in this game, and something that pulls you through the experience," says Marcus Nilsson, Ghost Games executive producer, adding the game will also give players "the ability to shape your car into what you want it to be and kind of develop that emotional connection to it."

EA says it will reveal more details during the Electronic Entertainment Expo in Los Angeles next month.

Blizzard Removes StarCraft Cigar - Guess Why

Blizzard’s cross-franchise multiplayer online battle arena (MOBA) game Heroes of the Storm is now available in open beta, and fans have noticed that Tychus Findlay - originally from StarCraft - no longer has his signature cigar.

In a recent post on Reddit, Blizzard explained that this is due to varying criteria for a "teen" age rating in different regions.

Blizzard said there was a magnitude of guidelines the company had to follow and decided to prioritise making Heroes and Skins as utilitarian as possible by using a single character model for all regions.

"In the case of Tychus’ cigar there were regions where he wouldn’t be allowed to smoke," Blizzard wrote. "We have two options.

According to Blizzard, removing Tychus’ cigar from was a better use of resources than making two versions of his character model.

"Making 2 versions means more data management, multiple duplicates of the asset (if we update an animation, it has to propagate to all versions) such as the the death ragdoll model, the facial animations, his morph into the Odin, and apply that process to every skin as well. This mountain of work affects multiple departments and has to be addressed every time we’d adjust Tychus.

"Or: Remove the cigar. Put the development time into more content instead of bloating the management of one character. This is a decision based on productivity. The appeal of Tychus should not hinge on a cigar anyways, and we have no issue with that aspect of his character."

Blizzard also faced trouble with other character aspects but chose to spend time differenting them for seperate regions, such as removing the character of Skelethur in some regions because of guidelines about the depiction of human remains.

"It is a full time job managing those exceptions, and the less we have to manage, the more time we can spend making more game!" Blizzard said.

Heroes of the Storm officially launches on June 3, but it’s currently going through a open beta testing phase. The game uses a similar model to other MOBAs like League of Legends and DOTA 2: the game is free, and

players have access to a rotating roster of free characters, but can optionally purchase permanent access on a per-character basis, as well as additional skins.

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->A-ONE Gaming Online - Online Users Growl & Purr!

Happy 35th Birthday, Pac-Man!

The pellet-muching icon who helped transform gaming into a pop-culture juggernaut is gobbling his way towards middle age. Pac-Man turns 35.

First released in Japan on May 22, 1980, the coin-op classic quickly became a phenomenon, raking in over $1 billion worth of quarters over the decade. He appeared on the cover of Time Magazine. He’s adorned cereal boxes, starred in a Saturday morning cartoon, and appeared on virtually every gaming platform to have ever been released.

Credit Pac-Man’s popularity to great timing, simple gameplay, and instantly recognizable graphics, but according to creator Toru Iwatani, Pac-Man’s widespread appeal was entirely by design.

The reason I created Pac-Man was because we wanted to attract female gamers, he said at a 2010 panel on the game. Back then, there were no home games. People had to go to the arcade center to play games. That was a playground for boys. It was dirty and smelly. So we wanted to include female players, so it would become cleaner and brighter.

Pac-Man went on to become the world’s best-known video game character, beating out even Mario in a 2008 poll. But while you’ve undoubtedly spent some time racing around a maze with him, you might not know him as well as you think you do. Read on for a few little known Pac-facts.

Over 10 billion served?In the late 90s, Twin Galaxies, an organization that tracks video game world record scores, visited used game auctions and counted how many times the average Pac-Man machine had been played. Multiplying those figures by the total number of machines that were manufactured, they estimated over 10 billion plays in the 20th century.

Ghost protocol?The ghosts that chase Pac-Man around the maze have their own quirks. Blinky, the red ghost, pursues Pac-Man most aggressively and will even speed up slightly after you eat a certain number of dots. Pinky tries to predict where Pac-Man will go and meet him there. The blue ghost, Inky, will continually try to get right in front of Pac-Man, while Clyde, the orange ghost, moves completely at random.

The First Lady?A few years years after Pac-Man stormed arcades, Namco added a bow and lipstick and released Ms. Pac-Man, technically the first playable female character in any video game.

He s a life saver?Two Swedish airports have installed Ms. Pac-Man machines

to help travelers with spare time - and spare change - keep themselves amused between flights. All of the money raised in the machines is donated to the Red Cross and its operations.

There is such a thing as a perfect Pac-Man score. You'll need to eat every dot, fruit, power pellet and ghost on the first 256 levels. At that point, the game crashes to what s commonly calld the kill screen and can t be played any further. Play it perfectly, and you'll end up with a score of 3,333,360.

Interested in playing it? You can do that for free in a few places. Google honored Pac-Man's 30th birthday with a playable version of the game, and it's still live. If you prefer to play it on a small screen, you can check out Pac-Man Lite, a free iOS version that includes all 256 original levels.

It Took 26 Years, But This PC Classic Now Has a Sequel on Steam

Nearly three decades after its predecessor debuted on platforms like Atari Lynx and MS-DOS, Chip's Challenge 2 is now available on Steam.

As announced last month, the previously unreleased game is finally launching after its release was prevented due to rights issues in the early '90s. These are briefly detailed in a "History" section on the game's Steam page, which I can't remember seeing before.

With those issues sorted out, you can now buy the standalone game on Steam for $5. Alternatively, you can pick up a bundle that includes it, the original, and a level editor ($3 on its own) for that same $5 price. The new game is comprised of 200 new levels, and allows you to play as either the titular Chip or Melinda.

The first Chip's Challenge debuted in 1989, making this wait comparable to that of Wasteland 2, which came out last year as the sequel to the 1988 original. Length of the wait aside, the two situations are different in that Chip's 2 had already been developed, whereas Wasteland 2 was a new project made possible thanks to Kickstarter.

Being a game that was originally created so long ago, virtually any computer is capable of running it; you need only a Pentium 486- - a processor as old as the original Chip's Challenge- - 16 MB of RAM, and 100 MB of storage space. Water-cooling is optional.

The First First-person Shooter

How a group of college students made gaming history at the dawn of personal computing and computer networks.

It started as an experiment. Steve Colley had just figured out how to rotate a cube on the screen when Howard Palmer suggested they could make a three-dimensional maze.

The year was 1973. They were high school seniors in a work-study program with NASA, tasked with testing the limits of the Imlac PDS-1 and PDS-4

minicomputers. Their maze program flickered into life with simple wireframe graphics and few of the trappings of modern games. You could walk around in first person, looking for a way out of the maze, and that’s about it. There were no objects or virtual people. Just a maze.

But Maze would evolve over the summer and the years that followed. Soon two people could occupy the maze together, connected over separate computers. Then they could shoot each other and even peek around corners. Before long, up to eight people could play in the same maze, blasting their friends across the ARPANET a forebear to the internet. Two decades before id Software changed the game industry with Wolfenstein 3D and Doom, Colley, Palmer and MIT students Greg Thompson and Dave Lebling invented the first-person shooter.

This is the story of Maze, the video game that lays claim to perhaps more "firsts" than any other the first first-person shooter, the first multiplayer networked game, the first game with both overhead and first-person view modes, the first game with modding tools and more.

Greg Thompson was always more interested in electronics than medicine, which his anesthesiologist father had tried to push him into. He had just the right mentor, John McCollum, who was the electronics teacher at Homestead High School and who Thompson believes is the unsung hero of Silicon Valley. Perhaps most notably, Apple co-founders Steve Wozniak and Steve Jobs (who was a year above Thompson) learned the skills they required to build the Apple I computer from McCollum.

In the summer of 1972, McCollum got Thompson into a college-level work-study program at NASA’s Ames Research Center. There Thompson met fellow Bay Area high schoolers Steve Colley and Howard Palmer. They worked in the computer graphics lab at NASA Ames, which was doing research into computational fluid dynamics to help design future spacecraft.

The lab had several Imlacs. These were programmable minicomputers with graphical displays sort of the high-end personal computer of the time with enough memory to handle one person running what passed then for one decent-sized program.
Colley, Palmer, Thompson and the rest of the group were tasked with exploring the capabilities of these systems to experiment and push the boundaries. Being teenagers, this, of course, led to them mostly making games. They started with 2-D games like Pong and duplications of other early arcade titles such as Drop Zone, which they regularly played at their local Togo’s sandwich shop in hopes of getting a score high enough to win a free sandwich.

In 1973 Colley figured out how to rotate a wireframe cube on the screen without the lines at the back showing. Up to this point, Colley and Palmer, the senior members in the group, had refrained from making any games. Their focus was on serious, "useful" software. But one day while thinking about how to make something fun, they came up with the idea of creating a networked, multiplayer maze game. Palmer thought it would be cool in 3-D, but Colley doubted it was possible until Palmer noted that it could work if the maze had nothing but 90-degree angles. Colley got excited and returned the next day with an implementation that Thompson says was, effectively, a bunch of cubes stacked next to each other. The cubes that were "there" formed the walls while the rest acted as hallways. From that, Thompson continues, "You basically got a maze. You could see corridors you could walk down."

The maze was small, sized 16 squares by 32. Thompson says that its graphics provided a sense of being in a space, and the three of them enjoyed wandering around its halls looking for the way out. But Colley, writing in a retrospective on DigiBarn Computer Museum, notes that it got boring soon enough. You could solve the maze, and that was it. Then one of the trio had an idea: What if there were something else in that maze? Colley added a little extra code and connected two Imlacs directly with a serial cable. "It just seemed natural that you could potentially communicate to another machine," Thompson says when asked how they came up with the idea.

"It just seemed natural that you could potentially communicate to another machine."

Suddenly you could have two people walking around the maze together each with a one to eight character floating username and a simple graphical indication to show each person's location and orientation two dots for eyes if they're facing you, arrows if they're looking left or right, nothing if they're moving away.

To make things even more interesting, they added bullets. Now you could not only see a second person but shoot the person as well. And as a final contribution, Colley added the ability to peek around corners before stepping into a new corridor. Your viewpoint would shift around the corner so long as you held the key down, but you couldn't do anything else while peeking.

Maze wasn't drawing much attention outside of its three creators at this point, but that quickly changed after they graduated high school. In the fall of 1973, Colley went to Caltech and Palmer to Stanford while Thompson took Maze and the rest of their Imlac programs with him to MIT. And at MIT he got involved with Project MAC, which later became the college's computer science laboratory, and he met the dynamic modelling group which was making games of its own.

Dave Lebling may be the last person you'd expect to have been involved with inventing the first-person shooter. He was co-founder of Infocom, which was a company that made adventure games for personal computers before adventure games had graphics. Infocom's imaginative text-only games dominated the industry in the first half of the 1980s, before graphic adventures rose to prominence. And Lebling cowrote the first and perhaps most famous of those: Zork, an adventure that he's surprised and delighted to see is still a beloved source of inspiration for many creative minds. But before he did any of that, Dave Lebling helped expand Maze into a livelier experience.

Lebling doesn't recall the version of Maze that Thompson brought to MIT having shooting in it. "You wandered around in a maze, and that was it," he says.

Regardless of whether the shooting was added before or shortly after Maze reached MIT, Lebling and Thompson soon teamed up. Thompson focused on the Imlac side of things since he knew the machine better, and Lebling said that he would work on the PDP-10 mainframe the big computer upstairs that the Imlacs were all connected to.

At NASA Ames, each Imlac ran its own version of Maze and calculated positions locally a quirk that could lead to discrepancies over whether someone was shot or not. With the mainframe, they could offload this work to a central machine that would coordinate all moves and broadcast them

to all players.

"You wandered around in a maze, and that was it."

"It took a certain amount of debugging," Lebling recalls, "but it worked, and it was really cool." With Lebling's help, Maze gained the ability to handle up to eight players on a network. Thompson added code to keep track of scores and graphics that would show missiles travelling down a corridor. And Lebling also wrote a maze editor, which allowed players to create new maps.

"It was very simple," he explains. "You called up a text editor and you created a grid of I forget what character we used, but it may have been any character other than space. You just created a grid of text characters that had 1s where there were walls and 0s where there weren't once it was processed."

"People would try various bizarre ideas for mazes," Lebling says. But the standard maze got the most use. "It had some very twisty parts and it had some long hallways, so you could potentially duck out into the hallway and shoot at someone who was quite far away and then duck back and they would die."

Word got around in the lab, which had eight Imlacs. "People started playing and it was an enormous it was a viral thing in today's sense," Lebling says, "because we weren't the only research group in the lab."

People came from other levels in the building just to play Maze. "The Imlacs were sufficiently scarce that we actually had to sign up to use them," Lebling says. "So people would come in the middle of the night to play and they would shoot each other and run around and there'd be a running score and so forth." Thompson says that any MIT student or professor could set up an account on the system, so word quickly spread around campus. Twenty years before Doom death matches took over local networks in college dorm rooms, MIT students were doing the same thing on computers meant for cutting-edge research.

Spurred on by this popularity, the pair kept adding new features. They enjoyed playing Maze, but their true passion was making it better, learning more and impressing their friends. Thompson's grades started to slip, too. "I probably spent a lot of time coding and getting it working because I was intrigued by it," he says. "I wanted to, and I was learning." Lebling's driving motivation differed slightly: "Writing [games] and watching other people enjoy them was, I think, more fun than playing them," he says.

They added a top-down view that you could switch into to see the whole maze and better plan your routes, but the caveat was that, while you were looking at that, someone could sneak up on you fairly easily. Thompson added cheats that made it possible to pass through walls while Lebling wrote robot players.

"People started playing and it was an enormous it was a viral thing in today's sense."

"There weren't always enough people to make it interesting," Lebling says, "so I decided to write a little really stupid artificial stupidity rather than artificial intelligence robot program. You could start up a bunch of robots. If you wanted to play by yourself with seven robots you could have done it. And people would do that and the robots would

wander around the maze and shoot you."

The robots were too good for many players. "We had to make them move slower than they normally could have," Lebling says. "They adaptively decided they had beaten you too much and made themselves stupider, or if you beat them too much, they would make themselves smarter. There was a bit of feedback going on there."

Nevertheless, Lebling notes, the robots were no substitute for human players. They were simply a fun option for if you were "bored and wanted to play by yourself," he says.

The very best Maze player, Ken Harrenstein, soon rewrote much of the program on the mainframe to make it more efficient, while Charles Frankston did the same on the Imlacs portion. This made it more feasible for two or more simultaneous Maze games to run through the PDP-10 mainframe.

Meanwhile, another man in their research group, Tak To, wrote a program called Maze Watcher, which allowed people to watch matches on an Evans and Sutherland LDS-1 graphics display computer. "You could sit in the lab that the display for the graphics computer was in and you could cheer on your friends as they played," Lebling recalls, mimicking "Go go go! Oh no! He’s around the corner!"

Maze’s popularity didn’t stay just within MIT’s walls. They shared the source code across the country via the ARPANET. Lebling believes that the first game of Maze played over the ARPANET was between students at MIT and the University of California, Santa Cruz. It was slow the ARPANET of the time was only a 50-kilobit network, which is a few orders of magnitude slower than the megabytes and even gigabytes that a fast internet connection manages today. But it was wonderful.

Perhaps even a little too wonderful. Legend has it that Maze was later banned for a period by the Defense Advanced Research Projects Agency (DARPA), which ran the ARPANET, because half of all packets (data, essentially) being sent over the network each month were flying between MIT and Stanford. Lab directors J. C. R. Licklider and Al Vezza worried well before then that Maze would be seen as too frivolous. They discouraged Maze play in the lab, which was funded by DARPA, to keep things serious and to keep the Imlacs available for serious work.

"Maze clogged up the Imlacs, which were a very scarce resource."

"[Maze] clogged up the Imlacs, which were a very scarce resource," Lebling says. "To run Maze, you had to load the Maze program in instead of the usual terminal program because these things only had 8K of memory, [so] people would load the Maze program in and then forget to reload the terminal program, or it would crash or something and they wouldn’t know how to reboot an Imlac, which wasn’t all that complicated but was more difficult than rebooting a personal computer today."

To combat this, the directors banned Maze. (Despite that they had been spotted on multiple occasions playing and enjoying the game, too.) It was a futile endeavor. The computers were on a network, so people would simply copy it over from another machine or hide away some code that would download the program again. Things soon escalated, and someone added a daemon program a program that runs in the background to look for instances of Maze and crash them.

This Maze Guncher could be easily defeated by either recompiling the Maze code with a different signature or by taking advantage of the fact that the system had no security whatsoever to disable the Guncher daemon. "It was just this hackers versus nonhackers thing," Lebling says. "This little war going on back and forth."

In the fall of 1976 Greg Thompson, Mark Horowitz and George Woltman enrolled in an electrical engineering digital hardware design class together. For their class project, Thompson suggested they make a system designed to run just Maze.

"I thought it would be fun, and then we started thinking about how to do it and build it. It seemed like a pretty complicated and exciting thing, but talking about it we thought we could figure out how we could actually implement it," says Horowitz. "We told the TAs in the class that we were going to do it, and they told us that basically they didn’t think it was a good idea but if we wanted to we could go ahead and try."

The trio determined that it would be easier to build the game if they made it more complicated. Whereas the original Maze was effectively a two-dimensional maze that was drawn in line segments, the new version was fully 3-D. In the hardware version of Maze, you could turn in any direction inside a 16 by 16 by 16 cube that had four floors in each dimension.

"The reason we did that was it made the game completely symmetric," Horowitz explains. "It turned out, from a hardware perspective, it was way easier to do that because there were less specialized surfaces. So you were walking in a maze with no gravity, essentially. You could turn left, right, or you could turn up or down."

It was about as confusing as it sounds, but they found it exhilarating. Then Woltman added robot players. "They played so much better than we did because they never were confused," Horowitz recalls. "They just followed some pretty simple rules and just looked around for people, and when they saw them, they shot them."

Horowitz, meanwhile, would be too busy trying to remember where he was in the maze. "[I was] trying to remember which end was up," he says. "They didn’t care. They just walked through and found openings and continued moving forward."

Like in the Imlac version of Maze, you could make the robots play better or worse, but in this case it was entirely a matter of changing the clock rate on the processor. "If you wanted it to play faster you’d just turn up the clock rate and run the whole system a little bit faster," explains Thompson.

As for the display, without a graphics processor they had to get creative. "We ended up deciding to use oscilloscopes because they were in the labs to help you to debug your hardware," says Horowitz. "We used it in X-Y mode and I used the display as a vector draw display. So instead of doing raster scan, which is how all displays are today, I actually drew lines on the screen."

Horowitz also drew bullets that you could see flying down the screen, gradually getting bigger as they came closer or smaller as they moved away.

The game was so impressive that the trio earned near-perfect marks for the

project and the lab kept hardware Maze around for a year or two as an example game to show other students. And Horowitz, for his part, is surprised not only that people still care about the project today, but also that he can remember it all. "I have a really bad memory," he says. "I don’t remember what I did two weeks ago let alone 40 years ago. But the truth is, I remember the maze game. I remember what it was like. What the graphics looked like and how it all worked and I just remember how exciting it was trying to build it."

Maze’s many creators each went off in separate directions. Lebling and a few of his dynamic modelling group cohorts founded Infocom while Thompson flitted around the technology industry as a consultant, engineer and designer for the likes of Digital Equipment Corporation, nCube and Cisco. Steve Colley founded nCube, which became a leader in the early video on demand industry. Horowitz became director of Stanford University’s computer systems lab. And George Woltman went on to discover several of the largest known prime numbers.

Maze carried on, mutating and spreading throughout the computing world. Jim Guyton rewrote the Imlac version for the raster displays of Xerox’s Alto and Star personal computers, renaming it Maze War and adding the minimap to the bottom of the main display. Two members of the early Macintosh team at Apple saw this version and wrote their own for testing purposes Gene Tyacke’s Bus’d Out, which was leaked out at an alpha level of completion, tested an early version of the AppleTalk networking protocol, while Burt Sloane’s Maze Wars demonstrated a file transfer and messaging server.

Sloane’s Maze Wars was reworked and expanded by MacroMind as the first commercial version of Maze with the 1986 Mac release Maze Wars+, and that later led to Callisto Corporation making a more sophisticated and fleshed-out (not to mention 256-color) version called Super Maze Wars in 1993 also for the Mac.

Maze popped up on several other platforms as well. Xanth Software put it on Atari ST as MIDI Maze in 1987. Their title refers to the use of MIDI cables to string computers together for multiplayer matches. "We just passed joystick data around the ring," programmer Michael Park explains via email, "then each machine updated its world state and redrew the screen, then repeated. Everyone had to wait on the slowest machine (whichever took the longest to render its display)."

They also wrote an Atari 8-bit version that was finished but never released, and a German group led by coder Markus Fritz reverse engineered MIDI Maze so they could update it and fix bugs for MIDI Maze 2. Fritz says that that version only sold around 200 copies, but it nonetheless developed a cult following around the world with players still getting together today for semiregular tournaments.

Maze also made it onto Game Boy, retitled Faceball 2000, and several other early ’90s games consoles and handhelds, along with Palm OS, NEXTSTEP and yet more platforms.

Its original creators seem somewhat bemused by Maze’s longevity and legacy. "It’s just kind of a small contribution that I and the people around me helped to make in pushing technology into a fun area," says Thompson. "We’ve had games since probably the days of the Stone Age. It’s just been implemented in different ways. And the nice things about computers and the network is that you can be connected; you can play with other people. You don’t have to be physically together, and you can play

with an experience of kind of looking like you’re inside a building that you’re not actually in."

Lebling was surprised to see Maze spread, and he believes that the first-person shooter genre that dominates games now is at least partially indebted to Maze. But "that doesn’t mean that they wouldn’t exist if Maze hadn’t existed," he notes. "It’s like the thing they used to say in science fiction, which is that steam engines come when it’s steam engine time. There was a confluence of technical development and ideas and culture that made something like Maze seem like a good idea."

Lebling and his Infocom cohort could well have become a first-person shooter company, too rather than the text adventure company. They founded Infocom before deciding what to develop, and one idea was to make Maze for the arcades. Nothing ever came of it because too many people who heard about the idea as a way to raise money for the fledgling company raised concerns that "nerds have no friends."

"I think it would have been a cool game to play," says Lebling, noting that arcades were in fact very social places. "You could have bragging rights and fights and drunken brawls in the arcade with ’You shot me!’"

In any case, nobody expected Maze to live on let alone to foreshadow a revolution in gaming that would occur 20 years later. "I think it was just a combination of enough bright people had come across it at MIT and then reimplemented at other platforms," says Thompson. "Because it’s fun, because it’s enjoyable and at the time it was pushing the state of the art. It was a good test tool. You could justify it however you wanted to justify it, but you kind of built it because you could show off some of the neat things you could do."

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A-ONE’s Headline News
The Latest in Computer Technology News
Compiled by: Dana P. Jacobson

Senate Votes Down USA Freedom Act, Putting Bulk Surveillance Powers in Jeopardy

In a midnight session, the Senate has voted down the USA Freedom Act, putting one of the legal bedrocks of the NSA’s bulk surveillance programs into jeopardy. The Patriot Act is set to expire at the end of the month, and the USA Freedom Act would have extended large portions of the act in modified form. Tonight’s failure to arrive at a vote makes it likely that many of those powers will automatically expire, although Senate Majority Leader McConnell (R-KY) scheduled a last-minute session on May 31st for one last shot at passing the bill.

In particular, the USA Freedom Act would have modified the Section 215 of the Patriot Act, a clause that allows the FBI to secretly order the collection of "tangible things" that could help in a national security investigation. Since its passage, Section 215 has been interpreted

loosely and likely illegally by intelligence agencies. As whistleblower Edward Snowden revealed in 2013, the definition of both "tangible things" and "investigation" was broad enough to let NSA build a large database of American phone records for an ongoing, expansive national security effort.

After the program was discovered, President Obama ordered the NSA to get approval before searching the database, but the phone metadata orders have still been renewed every three months. Government reports have said that there's little evidence the phone records program foiled any terrorist plots, however, and a recent court decision found that it wasn't legal at all by the standards of Section 215.

The provision has also been used for tracking more than phone records. This week, the Justice Department's Office of the Inspector General released a review of Section 215. While it's partially redacted, the document describes FBI requests for records that "range from reproductions of hard copy reproductions of business ledgers and receipts to gigabytes of metadata and other electronic information," including email records. This might not necessarily be problematic in itself, but the report notes that requests could cover "groups composed of unknown members" and people who weren't actually associated with investigations, with the justification that they were still relevant to the investigation.

Originally, the USA Freedom Act was a relatively broad reform bill, tightening the language of national security rules and adding more transparency requirements. Since its introduction, though, it had been revised several times a watered-down version passed the House last year, and a stronger version died in the Senate. The House brought a new version of bill back and passed it earlier this month, but the bill faced significant opposition in the Senate. Most notably, Rand Paul has staged a series of non-procedural filibusters in symbolic opposition to the bill, including a speech today that pushed the Senate vote past midnight.

U.S. Tried Stuxnet-style Campaign Against North Korea But Failed

The United States tried to deploy a version of the Stuxnet computer virus to attack North Korea's nuclear weapons programme five years ago but ultimately failed, according to people familiar with the covert campaign.

The operation began in tandem with the now-famous Stuxnet attack that sabotaged Iran's nuclear programme in 2009 and 2010 by destroying a thousand or more centrifuges that were enriching uranium. Reuters and others have reported that the Iran attack was a joint effort by U.S. and Israeli forces.

According to one U.S. intelligence source, Stuxnet's developers produced a related virus that would be activated when it encountered Korean-language settings on an infected machine.

But U.S. agents could not access the core machines that ran Pyongyang's nuclear weapons program, said another source, a former high-ranking intelligence official who was briefed on the program.

The official said the National Security Agency-led campaign was stymied

by North Korea’s utter secrecy, as well as the extreme isolation of its communications systems. A third source, also previously with U.S. intelligence, said he had heard about the failed cyber attack but did not know details.

North Korea has some of the most isolated communications networks in the world. Just owning a computer requires police permission, and the open Internet is unknown except to a tiny elite. The country has one main conduit for Internet connections to the outside world, through China.

In contrast, Iranians surfed the Net broadly and had interactions with companies from around the globe.

A spokeswoman for the NSA declined to comment for this story. The spy agency has previously declined to comment on the Stuxnet attack against Iran.

The United States has launched many cyber espionage campaigns, but North Korea is only the second country, after Iran, that the NSA is now known to have targeted with software designed to destroy equipment.

Washington has long expressed concerns about Pyongyang’s nuclear program, which it says breaches international agreements. North Korea has been hit with sanctions because of its nuclear and missile tests, moves that Pyongyang sees as an attack on its sovereign right to defend itself.

U.S. Secretary of State John Kerry said last week that Washington and Beijing were discussing imposing further sanctions on North Korea, which he said was "not even close" to taking steps to end its nuclear program.

Experts in nuclear programs said there are similarities between North Korea and Iran’s operations, and the two countries continue to collaborate on military technology.

Both countries use a system with P-2 centrifuges, obtained by Pakistani nuclear scientist A.Q. Khan, who is regarded as the father of Islamabad’s nuclear bomb, they said.

Like Iran, North Korea probably directs its centrifuges with control software developed by Siemens AG that runs on Microsoft Corp’s Windows operating system, the experts said. Stuxnet took advantage of vulnerabilities in both the Siemens and Microsoft programs.

Because of the overlap between North Korea and Iran’s nuclear programs, the NSA would not have had to tinker much with Stuxnet to make it capable of destroying centrifuges in North Korea, if it could be deployed there.

Despite modest differences between the programs, "Stuxnet can deal with both of them. But you still need to get it in," said Olli Heinonen, senior fellow at Harvard University’s Belfer Center for Science and International Affairs and former deputy director general of the International Atomic Energy Agency.

NSA Director Keith Alexander said North Korea’s strict limitations on Internet access and human travel make it one of a few nations "who can race out and do damage with relative impunity" since reprisals in cyberspace are so challenging.

When asked about Stuxnet, Alexander said he could not comment on any offensive actions taken during his time at the spy agency.

David Albright, founder of the Institute for Science and International Security and an authority on North Korea's nuclear program, said U.S. cyber agents probably tried to get to North Korea by compromising technology suppliers from Iran, Pakistan or China.

"There was likely an attempt" to sabotage the North Korean program with software, said Albright, who has frequently written and testified on the country's nuclear ambitions.

The Stuxnet campaign against Iran, code-named Olympic Games, was discovered in 2010. It remains unclear how the virus was introduced to the Iranian nuclear facility in Natanz, which was not connected to the Internet.

According to cybersecurity experts, Stuxnet was found inside industrial companies in Iran that were tied to the nuclear effort. As for how Stuxnet got there, a leading theory is that it was deposited by a sophisticated espionage program developed by a team closely allied to Stuxnet's authors, dubbed the Equation Group by researchers at Kaspersky Lab.

The U.S. effort got that far in North Korea as well. Though no versions of Stuxnet have been reported as being discovered in local computers, Kaspersky Lab analyst Costin Raiu said that a piece of software related to Stuxnet had turned up in North Korea.

Kaspersky had previously reported that the software, digitally signed with one of the same stolen certificates that had been used to install Stuxnet, had been submitted to malware analysis site VirusTotal from an electronic address in China. But Raiu told Reuters his contacts had assured him that it originated in North Korea, where it infected a computer in March or April 2010.

Some experts said that even if a Stuxnet attack against North Korea had succeeded, it might not have had that big an impact on its nuclear weapons program. Iran's nuclear sites were well known, whereas North Korea probably has at least one other facility beyond the known Yongbyon nuclear complex, former officials and inspectors said.

In addition, North Korea likely has plutonium, which does not require a cumbersome enrichment process depending on the cascading centrifuges that were a fat target for Stuxnet, they said.

Jim Lewis, an advisor to the U.S. government on cybersecurity issues and a senior fellow at the Center for Strategic and International Studies, said there are limitations to cyber offense.

A cyber attack "is not something you can release and be sure of the results," Lewis said.

Ulbricht Sentenced in Silk Road Case

A federal judge gave convicted Silk Road darknet mastermind Ross Ulbricht two terms of life in prison and three lesser sentences Friday for founding and operating a criminal version of eBay that made buying illegal drugs almost as easy as clicking a computer mouse.

After the 31-year-old Texas native apologized for his deeds and asked for

leniency, U.S. District Judge Katherine Forrest ordered Ulbricht to serve far more than the mandatory minimum 20-year term he faced for his February conviction on charges of operating a continuing criminal enterprise and related allegations.

The punishment matched the life term called for under federal sentencing guidelines and recommended by a government probation report.

Forrest also imposed a nearly $184 million forfeiture order on Ulbricht. "It wasn't a game, and you knew that," said Forrest, who said Silk Road was "your opus."

"I don't think you did something thoughtless. I think you did something very thoughtful," the judge added.

Ulbricht, dressed in a black detention top and pants, appeared as if he were trying to hold back tears as he addressed the judge. "I had a desire to, I wanted to empower people to make choices in their lives for themselves and have privacy and anonymity," he said. "I'm not a self-centered sociopathic person who wanted to express inner badness."

Pronouncing himself "a little wiser" and "more humbled," Ulbricht said he was "so sorry for the families" who lost loved ones to Silk Road-related drug deaths.

Ulbricht did not testify during the more than three-week federal court trial that ended with a jury of six women and six men finding him guilty after barely three hours of deliberations.

The trial featured evidence Ulbricht used the nom de Net "Dread Pirate Roberts" drawn from The Princess Bride novel and movie to run Silk Road from 2011-2013 as an encrypted electronic bazaar. The site matched buyers and sellers around the world for billions of dollars of deals featuring heroin, cocaine, LSD, methamphetamine, phony IDs and computer-hacking programs.

Silk Road operated on a hidden area of the Internet, and required all deals to be paid for in bitcoins, an electronic currency that preserved the anonymity of its denizens. Trial evidence showed Ulbricht reaped bitcoins worth roughly $18 million.

With the swiftness of their verdict, jurors rejected defense arguments that Ulbricht founded Silk Road but quickly turned it over to unidentified others who lured him back to take the fall as federal investigators closed in on the fast-growing operation.

Lead defense attorney Joshua Dratel, had argued that the man who in boyhood reached Eagle Scout status was a loving family member and remorseful entrepreneur who deserved leniency. In pre-sentence filings, he cited a declaration by Fernando Caudevilla, a Spanish physician who used the name "Doctor X" and provided expert advice on drug use on Silk Road's safety forum.

Paying Caudevilla $500 a week to provide that advice showed Ulbricht was not an unfeeling businessman, argued Dratel, who is separately expected to pursue an appeal of the conviction.

Forrest shot down that argument, calling Caudevilla an "enabler," and his behavior "breathtakingly irresponsible."

Federal prosecutors, however Ulbricht deserved far more than the 20-year minimum sentence. In support of their argument that he merited an enhanced sentence, Assistant U.S. Attorneys Serrin Turner and Timothy Howard gave Forrest details of six drug-overdose deaths involving Silk Road drug buyers, and stressed trial evidence that showed Ulbricht’s involvement in murder-for-hire plots to protect the operation.

Dratel objected, arguing in part that prosecutors failed to show sufficient evidence showing the deaths were directly linked to Silk Road drug buys. He also noted that prosecutors did not seek such a major sentence enhancement for a Silk Road worker who was sentenced to the equivalent of a 14-month prison sentence on Tuesday.

Forrest, however, said the issues should be considered in sentencing. She heard deeply emotional statements from two parents whose children died from Silk Road drug overdoses.

One victim, an athletic young kayaker identified in a prosecution filing only by his first name, Bryan, was an employee of a small money management firm in Boston. He was found dead in his apartment in early October 2013, within days of Ulbricht’s arrest in San Francisco.

Bryan’s father, Richard, addressed the court and described how his son apparently tried heroin during his senior year in college, then spent the final two years of his life battling drug urges.

The grieving father also wrote in a victim impact statement that Bryan used his computer to connect with Silk Road, an operation that "eliminated every obstacle that would keep serious drugs away from anyone who was tempted."

"Clearly my son made a horrible choice in electing to try heroin in the first place," wrote Richard.

However, he told the court that Ulbricht’s Silk Road business had none of the theoretical, political or socially redeeming characteristics claimed by Ulbrich’ and his supporters.

"All Ross Ulbricht cared about was his growing pile of bitcoins," the father said in the hushed court room as he called for "the most severe sentence the law allowed."

"This is the behavior of a sociopath," he concluded.

Sweden Seizes Pirate Bay Web Domains

A Stockholm court on Tuesday seized the Swedish web domains of file-sharing site The Pirate Bay over repeated copyright violations in a bid to end the site’s activities.

This was the first time a Swedish prosecutor had requested that an internet address be taken off the web permanently, according to the online edition of Swedish paper of reference Dagens Nyheter.

However, it was unclear what effect the Swedish court’s decision would have. Several hours after the ruling, users typing the addresses piratebay.se and thepiratebay.se were simply redirected to other Pirate

Bay sites.

"For criminal activities there’s always a way to get around the rules. Sweden has done what it can to show that it doesn’t accept this type of activity," Sara Lindback, a lawyer at the anti-piracy Rights Alliance, told news agency TT.

Founded in 2003, The Pirate Bay allows users to dodge copyright fees and share music, film and other files using bit torrent technology, or peer-to-peer links offered on the site.

The two domains belonged to a Thai woman, Supadavee Trakunroek, 25, whom the Stockholm district court identified as the business partner of one of the Pirate Bay’s founders, 37-year-old Fredrik Neij.

Neij had criticised the trial as an attack on freedom of expression.

Sweden has repeatedly tried to put an end to The Pirate Bay’s activities, to no avail.

Swedish courts have already handed down prison sentences and heavy fines to its founders Carl Lundstroem, Fredrik Neij, Gottfrid Svartholm Warg and Peter Sunde.

Servers hosting the site were seized in a Stockholm suburb in early December, but the site reappeared in late January.

UK Government Rewrites Laws To Let GCHQ Hack Into Computers Legally

The UK Government has quietly changed the Anti-Hacking Laws quietly that exempt GCHQ, police, and other electronic intelligence agencies from criminal prosecution for hacking into computers and mobile phones and carrying out its controversial surveillance practices.

The details of the changes were disclosed at the Investigatory Powers Tribunal, which is currently hearing a challenge to the legality of computer hacking by UK law enforcement and its intelligence agencies.

About a year ago, a coalition of Internet service providers teamed up with Privacy International to take a legal action against GCHQ for its unlawful hacking activities.

However, the Government amended the Computer Misuse Act (CMA) two months ago to give GCHQ and other intelligence agencies more protection through a little-noticed addition to the Serious Crime Bill.

The change was introduced on June 6, just weeks after the complaint was filed by Privacy International that GCHQ had conducted computer hacking to gather intelligence that was unlawful under the CMA.

The bill that would allow GCHQ and other intelligence officers to hack without any criminal liability was passed into law on March 3, 2015 and became effective on 3rd of this month.

Privacy International notified this change in the CMA law only on Thursday. They complained that the legislative change occurred during the case under that very legislation was ongoing. Thus, they should have

been informed.

"It appears no regulators, commissioners responsible for overseeing the intelligence agencies, the Information Commissioner's Office, industry, NGOs or the public were notified or consulted about the proposed legislative changes," according to Privacy International. "There was no public debate."

"Instead, the government is continuing to neither confirm nor deny the existence of a capability it is clear they have, while changing the law under the radar, without proper parliamentary debate."

The complaint was filed by the charity Privacy International following the revelations from former NSA contractor Edward Snowden, who revealed the United States and British agencies capabilities to carry out global surveillance on a much wider scale.

Snowden also claimed that the National Security Agency (NSA) and its British counterpart GCHQ had the ability to monitor Internet traffic, listen to phone calls and infect Millions of computer and mobile handsets with malicious software.

According to Privacy International, the change made to the Computer Misuse Act "grants UK law enforcement new leeway to potentially conduct cyber attacks within the UK."

However, the Home Office has rejected all the claims made by Privacy International and said there have been no changes made to the CMA that would affect the scope of spy agencies.

"There have been no changes made to the Computer Misuse Act 1990 by the Serious Crime Act 2015 that increase or expand the ability of the intelligence agencies to carry out lawful cyber crime investigation," said the spokesman. "It would be inappropriate to comment further while proceedings are ongoing."

United Airlines: Hack Our Site for Free Miles (Just Don't Mess With Onboard Systems)

United Airlines is offering up to 1 million free air miles in a new bug bounty program that rewards hackers who discover security flaws in the airline's websites, apps and databases.

The program is the "first of its kind within the airline industry," United proclaims on its website.

Bug bounties, which reward security researchers for responsible disclosure of vulnerabilities, are offered by many tech companies such as Facebook, Google and Microsoft.

The bounties usually come in the form of cash: Google even offers up to "infinity dollars" in its program, although most bounties are far less.

United's bug bounty program, however, offers rewards in the form of air miles - ranging from 50,000 free miles for low-level bugs (cross-site request forgery, bugs in third party software affecting United), to 1 million miles for the highest level kind of bug - remote code

execution.

To qualify for a reward, hackers need to be signed up as members of the airline’s MileagePlus reward program - and they need to comply with a strict set of eligibility rules.

Some security flaws that aren’t permissible include tampering with aircraft systems such as in-flight Wi-Fi or entertainment.

Hackers could end up in a heap of trouble for trying certain types of attacks, United warns, resulting "possible criminal and/or legal investigation."

Do not attempt:

Attempting any of the following will result in permanent disqualification from the bug bounty program and possible criminal and/or legal investigation.

* Brute-force attacks?* Code injection on live systems?* Disruption or denial-of-service attacks?
* The compromise or testing of MileagePlus accounts that are not your own?
* Any testing on aircraft or aircraft systems such as inflight entertainment or inflight Wi-Fi?
* Any threats, attempts at coercion or extortion of United employees, Star Alliance member airline employees, other partner airline employees, or customers?
* Physical attacks against United employees, Star Alliance member airline employees, other partner airline employees, or customers?
* Vulnerability scans or automated scans on United servers

Maybe United has had this in the works for a while, but the announcement of the bug bounty program comes just a few weeks after the airline banned a security researcher from flying on United after he tweeted that he could hack onboard systems to deploy oxygen masks.

United cited its existing policies in banning the researcher, Chris Roberts, and preventing him from boarding his United flight from Colorado to San Francisco (where he was scheduled to speak at the RSA Conference about security vulnerabilities in transportation).

Recently, US government agencies have launched investigations into the security of systems such as avionics (onboard computers that control communication and navigation), and the antiquated air traffic control system that directs millions of flights annually across the US.

The findings of a US Government Accountability Office (GAO) report has raised the level of scrutiny on airlines by lawmakers, regulators, the media and general public.

Despite all of this attention on aircraft security, and presumably for reasons of aircraft safety, the United bug bounty program is limited to the security of its websites.

United, who has previously struggled to keep customer data secure, is stepping up its website security in other ways, too - just last week the airline announced the beta launch of a brand new united.com.

While United is touting upgrades to its website design like easier search

and filtering of flight information, one unsung feature is the switch to default SSL encryption across the entire website (shown by the "HTTPS" part of the web address).

You can see on the homepage of the beta.united.com site that it has a security certificate telling you that this is really United’s website, as vouched for by the certificate authority GeoTrust.

The current united.com website doesn’t have that extra layer of security.

Let’s hope the other airlines follow United in taking proactive steps to protect customer data.

AdBlock Plus Declared Legal (Again) by a German Court

For the second time in two months a German court has ruled that Adblock Plus, the browser extension for filtering ads, is legal.

On Wednesday the Munich Regional Court ruled against media companies ProSiebenSat1 and IP Deutschland, the company behind media group RTL. The companies sued Eyeo, the company behind Adblock Plus, and wanted the court to ban the distribution of the free ad-blocking software, claiming it hurts their ad-based business model.

Adblock Plus lets users block annoying ads. It does however let some acceptable ads through the filter, a practice the company has been criticized for because it lets companies like Amazon, Google and Microsoft pay to get on the filter s white list. The plugin lets users block all ads if they want to, though.

The Munich court ruled that making and distributing ad-blocking software is not anticompetitive, since users decide on their own to install the software.

What s more, media company s copyrights are not violated when individual users visit freely available websites while blocking advertising, the court said. Copyrights are not infringed even if the site owner does not agree with the use of ad-blockers, it ruled.

It also found antitrust laws were not violated because Adblock Plus has no dominant market position.

Eyeo s victory follows an April decision by the Hamburg Regional Court, which ruled that it is legal to make software to block ads. It dismissed complaints from German newspapers Zeit Online and Handelsblatt, which had also argued that Adblock Plus illegally interfered with their ad-based online business models.

Eyeo s spokesman Ben Williams called the Munich court s decision another win for every Internet user. It confirms that each individual has the right to block annoying ads, protect their privacy and, by extension, determine his or her own Internet experience, he added.

The company said it will keep working with publishers, advertisers and others to encourage the use of non-intrusive ads.

ProSiebenSat1 called it a sad day for Internet users. AdBlock Plus

jeopardizes the financing options for all free internet sites, it said.

The company still feels ad blocking is inadmissible under copyright and antitrust laws and maintained that the practice is an anticompetitive attack on media diversity and freedom of the press. It will review its options for an appeal and further legal action against Eyeo, it added.

Google Reveals the Problem With Password Security Questions

Google analyzed hundreds of millions of password security questions and answers, revealing how startlingly easy it is for would-be hackers to get into someone else’s account.

Case in point: What’s your favorite food?

Using one guess, an attacker has a 19.7 percent chance of guessing an English speaking user loves pizza, according to Google’s findings, which looked at hundreds of millions of questions and answers for account recovery claims.

While the questions are meant to provide an extra layer of security, Google found easy-to-guess answers were a problem around the world.

With ten guesses, an attacker would have a near one in four chance of guessing the name of an Arabic speaker’s first teacher. Ten guesses gave cyber criminals a 21 percent chance of guessing the middle name of a Spanish speaker’s father.

South Korean users were most vulnerable with the question "What is your city of birth?" With ten guesses, attackers would have a 39 percent chance of getting into a person’s account.

While the study shows how alarmingly easy it is to crack a person’s password security questions, Google said the solution shouldn’t be to add more questions.

Google’s security researchers instead recommend users make sure their account recovery information is current by going through a security checkup. Adding a phone number or back-up email address can help circumvent the issue of someone trying to penetrate your account via the secret questions.

Dot-com to .pizza: Welcome to the Web Domain Rush

The Internet’s long-restricted virtual real estate market is open for business.

Hundreds of new so-called top-level domains (TLDs) like .photography, .expert and .pizza are available now that the Internet Corporation for Assigned Names and Numbers (ICANN), which oversees the domain name system, has expanded access to suffixes.

A handful of companies that prepared years ago to take advantage of this land grab are in a position to profit handsomely for years to come.

The new opening will also be a boost for brands looking to strengthen their online presence, but have been thwarted by domain-name squatters charging top dollar for the last remains of the dot-com universe.

One business, the sports training group Fast Twitch, jumped on the trend early. The company’s three elite training facilities in South Florida attract major league pitchers, pro boxers and all-star football players. But try finding the company online at fasttwitch.com and you’ll land on a generic website telling you the domain is for sale.

The dot-com game is too pricy for Fast Twitch Chief Development Officer James Meder. As a small business operator on a tight budget, he refuses to plop down $20,000 for a domain.

Fortunately for Meder, the new level of TDL suffixes means he no longer has to. Early this year, for an annual fee of about $40, Meder launched his website using the brand new address fasttwitch.training.

"Being a training company, this is a catchy, quick way to brand ourselves," said Meder, whose Miami-based company operates in partnership with sports apparel and accessories provider Under Armour. "It’s another piece of trying to do something unique."

Other currently live pages include beingamom.life, a website for mothers, and any.business, a small business content site. Donuts, a major buyer of new TLDs, calls it the "Not Com Revolution," because the past 30 years on the Web have been a dot-com circus.

The original .com suffix, short for commercial, is the default method for establishing a corporate address, while .org has been the go-to extension for nonprofits and .edu for colleges and universities. According to Verisign, which manages .com websites, 115.6 million of the 288 million domains registered across the globe end in .com.

"It’s a very saturated name space," said Bhavin Turakhia, founder and CEO of Radix, the owner of rights to new suffixes including .website, .space and .site. "You really can’t find any good, short, easy-to-remember names."

To get around the shortage, U.S. start-ups have turned to using country codes like .ly (Libya), .me (Montenegro) and .tv (Tuvalu) in building their online presence.

In June 2011, ICANN announced the plan to increase the number of TLDs to let organizations "market their brand, products, community or cause in new and innovative ways." A bidding process took place in early 2012, and by January 2014, new addresses started coming online.

More than 600 new TLDs have been purchased, and about 350 of those are available today, according to nTLDStats. Some 5.6 million new addresses are live, with .xyz, .science and .club ranking as the most popular English suffixes.

The domain boom is breathing life into a historically quiet corner of the Internet.

It’s certainly not a corner that Meder knew or cared much about until 2013, when he stumbled upon a Twitter conversation about a company called 1and1.

The tweets caught his eye because Fast Twitch had been struggling for years with various dot-com iterations, like FT-PT.com and AreYouFastTwitch.com. Meder did some research on 1and1 and found that a wealth of new addresses would soon be available for purchase.

He settled on fasttwitch.training as the official site, purchased the address from 1and1, and migrated over from the dot-com world at the beginning of this year.

While Meder is excited about the URL's potential, he's encountered some frustrations in being an early adopter. One is the difficulty in using his email address when registering with online businesses, because many websites aren't yet recognizing the new domain extensions.

Consumers, like machines, have to adapt to an all new Internet. Millions of new sites are certain to create some level of chaos and abuse. And with the mass transition to mobile apps, it's not even clear how important URLs will be in the future.

But the publicity opportunities for Fast Twitch more than outweigh the risks, according to Meder.

"It's a conversation piece," he said. "It gives us the chance to talk about it."

Stories like Meder's give 1and1 punchy anecdotes for its own marketing efforts. The German company is among thousands of domain name registrars, or entities that act as Web address retailers. They sit between the registries like Verisign, Donuts and Radix and domain buyers like Fast Twitch.

GoDaddy is the biggest registrar in the market, with 59 million domains, compared with 19 million for 1and1. GoDaddy sold shares to the public in April and is valued at $4.1 billion.

Recenty released TLDs already account for about 15 percent of 1and1's new business, according to Thomas Keller, the company's head of domains. It's lucrative, too, with the new TLDs selling for about $40 a year on average, more than double the typical .com addresses.

More importantly, companies finally have options and aren't forced to pay ridiculous prices to domain hoarders. According to Keller, 90 percent of searches on the 1and1 site for .com names show that the address is not available.

"It puts an end to the scarcity of the dot-com names," he said. "It will have a huge influence over time."

For .training alone, there are about 16,000 registered names. Every time 1and1, GoDaddy or another registrar sells an address with that extension, Donuts gets a substantial share of the revenue, because the Bellevue, Washington-based company owns its exclusive rights.

Donuts is an Internet registry, a designation that gives it the unique ability to buy TLDs after a thorough vetting by ICANN. In that market, Donuts owns the most unique suffixes and competes with companies including global Internet powerhouses Google and Amazon.com along with Radix, Afilias and Rightside.

Donuts was founded in 2010 by a four-person team betting that ICANN would soon open up the TLD universe. Over the past five years, the company has raised $150 million from venture investors and private equity funds, mostly to load up on suffixes.

When ICANN initiated bidding in 2012, Donuts went on a spending spree, applying for more than 300 names. A nonrefundable application fee of $185,000 was required for every TLD the company wanted to pursue. For Donuts, that added up to $58 million.

"We went through an amazing amount of data in terms of how words are used commercially," said Richard Tindal, Donuts' co-founder and chief operating officer. "We picked the 300 we viewed as the most commercially marketable, through a combination of art and science."

If more than one registry applied for a given suffix, the process went to an auction and the winner was determined by the highest bidder. Google spent a hefty $25 million for control of .app, while .tech, owned by Radix, was purchased for $6.8 million, according to ICANN.

Donuts has about 165 suffixes on the market now and is in the process of rolling out 15 more. The company expects to end up with about 200, in many cases spending several million dollars for a single TLD.

If its wagers pay off, millions of sites will be paying Donuts $20, $50, $100 a year and more.

For .training, Donuts paid only the $185,000 application fee, because no other bidders emerged. The name has already been profitable three times over, Tindal said.

"It's a really great business," Tindal said. "The more your product gets seen the more people like it."

While most of the .training names will retail for about $30 a year, Tindal is quick to point out that fitness is just one way to use the suffix. There's a whole other group of sites focused on education. AWS.training, a site for taking classes on Amazon Web Services, is already up and running.

Jeff Davidoff, former chief marketing officer of Orbitz and Bono's ONE Campaign, is tasked with turning the Not Com Revolution into a mainstream business. As CMO of Donuts, he's meeting with prospective customers at conferences like South by Southwest and helping users of new TLDs tell their stories.

He's convinced the market is about to tip.

"This isn't hypothetical anymore," Davidoff said. "So much of the history was four smart guys making bets on what the future could be. It's not a question of whether this will stick, it's just a question of how quickly it gets to be the new normal."

4 Billion People Still Not Online

Despite an increase in global Internet usage and efforts to boost international Web access, some 4 billion people remain offline.

Over the last 15 years, the International Telecommunication Union (ITU) has seen the number of global Internet users increase from 400 million to an expected 3.2 billion by year's end. Along the way, however, many billions of people were left by the wayside, without access to email, texts, social media, digital maps, or even statistics about themselves.

Industry heavyweights like Facebook and Google are working to bring free or cheap Internet access to emerging markets, teaming with local ISPs or launching balloon-based Internet service.

Internet.org and Google's Project Loon are still in their infancy, but ITU announced that between 2000 and 2015, Internet penetration overall increased almost seven fold from 6.5 to 43 percent of the global population.

"These new figures not only show the rapid technological progress made to date," ITU Secretary General Houlin Zhao said in a statement. "But also help us identify those being left behind in the fast-evolving digital economy."

Mobile users are keeping pace, too, according to ITU's forecast, which suggests that, by the end of the year, there will be more than 7 billion mobile subscribers worldwide up from fewer than 1 billion in 2000.

Global cellular penetration is set to reach 47 percent this year, while at the same time, 69 percent of the global population will reportedly be covered by 3G mobile broadband, up from 45 percent in 2011. Of the 3.4 billion people in rural areas, meanwhile, about 29 percent will be covered by 3G broadband this year, the ITU said.

"ICTs [information and communication technologies] will play an even more significant role in the post-2015 era and in achieving future sustainable development goals as the world moves faster and faster towards a digital society," said Brahima Sanou, director of the ITU's Telecommunication Development Bureau.

"Our mission," he added, "is to connect everyone and to create a truly inclusive information society."

FCC's Wheeler To Propose Subsidized Internet Access

The U.S. Federal Communications Commission will propose a plan to offer subsidized broadband Internet access to low-income Americans, the New York Times reported.

FCC Chairman Tom Wheeler will roll out a plan on Thursday to his commissioners suggesting major changes to a $1.7 billion subsidy program, the newspaper cited senior officials as saying.

Wheeler will propose potentially giving recipients a choice of phone service, Internet service or a mix of both, the officials said.

The subsidy program, Lifeline, is funded through fees paid by landline and cellphone customers.

"Lifeline helps ensure that all Americans can afford phone service,

providing connections to jobs, family and 911," Wheeler said last year.

Wheeler will also suggest new measures to curb fraud, the newspaper said. Lifeline has been a subject of controversy in recent years, after instances of abuse. Three men were indicted on charges of defrauding the subsidy program last year.

While the plan proposed by Wheeler is likely to win the support of the FCC’s Democratic majority in a vote next month, it is almost certain to set off fierce debate in Washington, the newspaper said.

Rejoice: Facebook Gets GIF Support - Here’s Everything You Need To Know

That’s right children, you can now post GIFs to Facebook and have them display not only inline, but in the mobile app as well.

See also: Beep boop beep: An interactive, animated droid encyclopedia
Longtime Facebook users (read: old people like me who have been using the service since it was for college students only), will recall that if offered GIF support in the very early days. The ability to embed or upload GIFs was removed a decade ago, probably because of the negative impacts a ton of GIFs in the Newsfeed had on the product.

A decade later, GIFs are bigger than ever and the ways in which a web service can deal with loading GIFs has improved too. Plus, virutally every other major social service now supports GIFs, so it’s sort of time for Facebook to re-join the party.

As with all good things, however, there are caveats.

The GIF support offered by Facebook is considerably better than the lame support Giphy hacked onto the platform in 2013, but there are still some guidelines to keep in mind.

The first thing to keep in mind is that the feature works with GIF links, not GIF uploads. At least for now, attempting to upload your favorite GIF will not result in a usable, playable GIF on Facebook.

Instead you need to paste a GIF file link into the "status update" screen. For most services, you’ll see an inline, real-time preview of the GIF embed.

In our tests, GIF links pasted from Tumblr didn’t preview in the status update preview, but showed up just fine on the page itself.

Services such as Giphy, Imgur, GFYcat and others are trying to make it easier to embed large GIFs all over the web.

Oftentimes, those services create a custom URL that will dynamically decide between loading a Flash or HTML5 video version of a GIF (which are smaller in file size and can load more quickly) or falling back to a traditional GIF image.

From our tests, it looks like the JavaScript involved in trying to parse the GIF gets confused with Facebook’s embed process and you wind up with the standard Giphy embed feature, which requires loading the GIF in another window.

To get around this, make sure you're using the full GIF url from Giphy or other GIF services.

For Giphy, click on the "share" button and then copy the GIF link. Pasting that link, which ends with *.gif, will result in happiness for everyone.

First, the good news. GIF links you paste on Facebook work on mobile too. The latest version of the iPhone app supports GIFs perfectly.

When scrolling through your feed, there will occasionally be an icon letting you know that a GIF exists (this seems to depend on the size of said GIF) and you can tap on the image to get the GIF to play. This is a common lazy-load feature that many other sites use in order to minimize the processing power needed to load lots of GIFs.

Now, for the bad news. For right now, GIF links only work for personal profiles, not brand pages.

I tried to get GIFs to work on the Mashable Tech Facebook page, and although the embed originally looked like it would work it ended up defaulting to a standard Giphy link.

No Virginia, GIF links do not work on Facebook Pages.

Subsequent attempts to paste GIF links just led to static images. Sad face.

We expect Facebook will eventually allow Pages to show GIFs too. (And you thought branded memes were bad wait until we get into the battle of brand-page GIFs.)

This is new and stuff is going to break and not work. We're still figuring out what's what with GIFs on Facebook, so stay tuned for more details.

In the meantime, GIF on!

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